Geophysical Research Abstracts
Vol. 16, EGU2014-7443, 2014
EGU General Assembly 2014

Uncovering a Salt Giant. Deep-Sea Record of Mediterranean Messinian Events (DREAM) multi-phase drilling project

Angelo Camerlenghi (1), Vanni Aoisi (2), Johanna Lofi (3), Christian Hübscher (4), Gert deLange (5), Rachel Flecker (6), Daniel Garcia-Castellanos (7), Christian Gorini (2), Zohar Gvirtzman (8), Wout Krijgsman (5), Stefano Lugli (9), Yizhaq Makowsky (10), Vinicio Manzi (11), Terry McGenity (12), Giuliana Panieri (13), Marina Rabineau (14), Marco Roveri (11), Francisco Javier Sierro (15), and Nicolas Waldmann (10)

(1) OGS, Trieste, (2) Université Pierre et Marie Curie, Paris, (3) Université de Montpellier 2, (4) University of Hamburg, (5) Utrecht University, (6) University of Bristol, (7) ICTJA-CSIC, Barcelona, (8) Geological Survey of Israel, Jerusalem, (9) University of Modena and Reggio Emilia, (10) University of Haifa, (11) University of Parma, (12) University of Essex, (13) University of Tromsø, (14) CNRS Plouzané Brest, (15) University of Salamanca

In May 2013, the DREAM MagellanPlus Workshop was held in Brisighella (Italy). The initiative builds from recent activities by various research groups to identify potential sites to perform deep-sea scientific drilling in the Mediterranean Sea across the deep Messinian Salinity Crisis (MSC) sedimentary record.
In this workshop three generations of scientists were gathered: those who participated in formulation of the deep desiccated model, through DSDP Leg 13 drilling in 1973; those who are actively involved in present-day MSC research; and the next generation (PhD students and young post-docs). The purpose of the workshop was to identify locations for multiple-site drilling (including riser-drilling) in the Mediterranean Sea that would contribute to solve the several open questions still existing about the causes, processes, timing and consequences at local and planetary scale of an outstanding case of natural environmental change in the recent Earth history: the Messinian Salinity Crisis in the Mediterranean Sea.
The product of the workshop is the identification of the structure of an experimental design of site characterization, riser-less and riser drilling, sampling, measurements, and down-hole analyses that will be the core for at least one compelling and feasible multiple phase drilling proposal. Particular focus has been given to reviewing seismic site survey data available from different research groups at pan-Mediterranean basin scale, to the assessment of additional site survey activity including 3D seismics, and to ways of establishing firm links with oil and gas industry.
The scientific community behind the DREAM initiative is willing to proceed with the submission to IODP of a Multi-phase Drilling Project including several drilling proposals addressing specific drilling objectives, all linked to the driving objectives of the MSC drilling and understanding . A series of critical drilling targets were identified to address the still open questions related to the MSC event. Several proposal ideas also emerged to support the Multi-phase drilling project concept: Salt tectonics and fluids, Deep stratigraphic and crustal drilling in the Gulf of Lion (deriving from the GOLD drilling project), Deep stratigraphic and crustal drilling in the Ionian Sea, Deep Biosphere, Sapropels, and the Red Sea.
A second MagellanPlus workshop held in January 2014 in Paris (France), has proceeded a step further towards the drafting of the Multi-phase Drilling Project and a set of pre-proposals for submission to IODP.